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ABETA SADAYUKI  
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ADACHI FUMYUKI****(54) METHOD FOR TRANSMITTING  
MULTI-CARRIER/DS-CDMA AND  
DEMODULATION DEVICE**

(57) Abstract:

**PROBLEM TO BE SOLVED:** To execute efficient channel estimation and compensation by equalizing variation in the transmission lines of respective subcarriers by using a DS system in a multi-carrier/DS-CDMA system.

**SOLUTION:** In the method for extending the band of an information symbol by a high speed diffusion code series and transmitting the band-extended diffusion signal by plural subcarriers having a frequency interval corresponding to  $n$  times ( $n$ : a natural number) the updating frequency of the diffusion code series, plural channels are allocated to each of plural subcarriers, and plural pilot symbols are inserted into the information symbol series in each communication channel in a time-wisely multiplexed state to transmit the diffusion signal.

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